

REMARKS

The application has been amended in a manner believed to place it in condition for allowance at the time of the next official action.

Claims 1 and 2 are amended. Claims 3-10 are new. Support for the amended and new claims may be found generally throughout the specification, particularly at pages 4 and 5, and the data of Table 1. Claims 1-10 remain pending in the application.

Claims 1 and 2 were rejected under 35 USC §103(a) as allegedly being unpatentable over U.S. 5,885,740 ("TOKUNAGA"). Applicants respectfully disagree.

TOKUNAGA discloses magnetite particles having 0.1-2% phosphorous, a specific area 3-25 m²/g, and hexahedral, tetradecahedral or octahedral shapes. The Official Action acknowledges that TOKUNAGA does not disclose coercive force values for the particles. However, the Official Action nevertheless states that one would expect the coercive force of the particles of TOKUNAGA to be the same as the claimed particles because the composition and particle size ranges taught by TOKUNAGA overlap those of the claimed particles, and TOKUNAGA follows the same process of preparing the particles as disclosed for the present invention.

Applicants respectfully submit that TOKUNAGA does not utilize the same steps as those disclosed in the present

invention, and, accordingly, one would not expect the particles to have the same properties. In the present invention, the phosphorous compound to the reaction slurry during the oxidation of Fe (Page 4, line 32 to page 5, line 7 and Examples 1 and 3 of the present specification), while TOKUNAGA adds the phosphorous compound to the reaction slurry prior to the oxidation of Fe (See column 4, lines 14-19).

As evidence that the particles of TOKUNAGA are indeed different from the claimed particles, applicants respectfully direct the Examiner's attention to the Declaration Under Rule 132 filed with this amendment.

The declaration demonstrates that magnetite particles produced according to TOKUNAGA comprising 0.1-1% phosphorus and an octahedral shape actually have a lower coercive force than the recited coercive force of the claimed magnetite particles comprising 0.1-1% phosphorus and an octahedral shape.

Magnetite particles comprising 0.15%, 0.38% and 0.79% phosphorus were prepared in three comparative examples in accordance with the example of TOKUNAGA that produced octahedral shapes (i.e. Example 4). The magnetite particles were evaluated for properties and characteristics in the same manner as the claimed magnetite particles (See Table 1 of the declaration).

As is apparent from Table 1 of the declaration, the coercive force of the TOKUNAGA particles is lower than the recited coercive force. TOKUNAGA particles ranged from 7.2 to

9.2 kA/m in an applied magnetic field of 796 kA/m, whereas the claimed particles of the present invention range from 10 to 25 kA/m in an applied magnetic field of 796 kA/m.

As evidenced by the comparative examples of the declaration, the recited coercive force of the magnetite particles of claims 1 and 2 is neither disclosed nor suggested by TOKUNAGA. Accordingly, TOKUNAGA does not render obvious claims 1 and 2, or new dependent claims 3 and 4.

Therefore, applicants respectfully request that the rejection be withdrawn.

Similarly, new claims independent claims 5 and 8 and dependent claims 6, 7, 9 and 10 are also not rendered obvious by TOKUNAGA.

Claims 5 and 8 are directed to magnetite particles comprising 0.1-1% phosphorus and an octahedral shape, along with a particular residual magnetization in an applied magnetic field. The present specification discloses that the coercive force affects the residual magnetization (e.g. at the paragraph bridging pages 3, line 28 to page 4, line 5). Thus, the residual magnetization is also indicative of the coercive force, as well as the composition and shape combination.

As discussed above, TOKUNAGA fails to disclose any coercive force values. TOKUNAGA also fails to disclose the recited residual magnetization value. In fact, in the only example that TOKUNAGA teaches octahedral-shaped particles with

phosphorous in the recited range (i.e. Example 4), the residual magnetization is 7.3 emu/g (i.e. 7.3 Am²/kg), in an applied magnetic field of 1kOe (i.e. 79.6 kA/m). This residual magnetization is well outside the recited residual magnetization. Thus, TOKUNAGA fails to disclose or suggest the recited residual magnetization of the new independent claims 5 and 8.

Claim 8 further recites a specific surface area. TOKUNAGA discloses a ratio of residual magnetization at 1kOe (i.e. 79.6 kA/m) to specific surface area of less than 0.9 for magnetite particles with 0.1% to 2% phosphorous and a possible octahedral shape. The recited specific surface area of claim 8, however, results in a ratio of residual magnetization to specific surface area greater than the range disclosed by TOKUNAGA. TOKUNAGA offers no suggestion or motivation for modifying the specific surface area, the residual magnetization at 79.6 kA/m, or the resulting ratio of residual magnetization to specific surface area.

As TOKUNAGA fails to disclose or suggest the residual magnetization recited in both claims 5 and 8, as well as the ratio suggested by the residual magnetization and specific surface area recited in claim 8, TOKUNAGA does not render obvious new independent claims 5 or 8. Further, new dependent claims 6, 7, 9 and 10 are also non-obvious.

In view of the above, applicants believe that the present application is in condition for allowance at the time of

the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON



Robert A. Madsen, Reg. No. 58,543
745 South 23rd Street
Arlington, VA 22202
Telephone (703) 521-2297
Telefax (703) 685-0573

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